Addendum 2

2.3 FIRE-ALARM CONTROL UNIT

A. The control panel shall contain a microprocessor with 10/100 Ethernet media access controller (MAC). The system shall be designed specifically for fire detection, and notification applications. The control panel shall be listed and approved for the application standard(s) as listed under the General section. ~~Panel shall be EDWARDS model iO Series~~.

B. The control panel shall include all required hardware, software and system programming to provide a complete and operational system. The control panel shall assure that life safety takes precedence among all panel activities.

C. The control panel shall include the following capacities:
1. Support one loop of 250 analog/addressable points, expandable up to two loops for a total of 500 points.
2. Support up to 8 fully supervised remote annunciators.
3. Support digital dialer with Contact ID format
4. Support up to 1000 chronological events.

D. The control panel shall include the following features:
1. Ability to download or upload site applications and system diagnostics remotely through an Ethernet connection, or DACT. Cellular connection is also acceptable.
2. Provide electronic addressing of analog/addressable devices. Rotary and dip switch addressing shall not be considered equal.
3. Provide an operator interface display that shall include functions required to annunciate, command and control system functions.
4. Provide an internal audible signal with different programmable patters to distinguish between alarm, supervisory, trouble and monitor conditions.
5. Provide system reports that provide detailed description of the status of system parameters for corrective action or for preventative maintenance programs. Reports shall be displayed by the operator interface or capable of being printed on a printer.
6. Provide an authorized operator with the ability to operate or modify system functions like system time, date, passwords, restart the system and clear control panel event history file.
7. Provide an authorized operator to perform test functions within the installed system.

E. The control panel shall provide the following intelligent and intuitive diagnostic software tools.
1. Fast Ground Check
   Allow quick wiring diagnostics for ground faults every 4 seconds to troubleshoot ground faults much quicker and determine if they have been fixed or not.
2. Recalibrate Device
   The control panel recalibrates any devices that have been cleaned. The Recalibrate Device feature will immediately reset the environmental compensation and dirtiness levels for faster verification of cleaned devices.
3. Test Fire
   The control panel sends a test command to a detector or input module to activate. This allows for proper operation and programming testing of the device.
4. Flash Device LED
   It shall be possible to activate any device LED from the control panel menu to help troubleshooting or locate a specific device on a loop.
5. Walk Test
   Walk test will allow the operator to test individual zones or devices without placing an alarm event on the system.

It shall be possible to perform a walk test in a silent or audible test mode. Silent test mode shall display the test results on the LCD display. Audible test confirmation shall sound a coded signal on the systems NAC circuits.
It shall be possible to activate Walk Test by zone or device to ensure the balance of the system remains in service to protect the premises.
It shall be possible to view and print a walk test report showing the activation and restoration of all walk test events.

6. Device Maintenance
It shall be possible to view and print a report of all detectors dirtiness levels to optimize cleaning schedules. The report shall filter for all devices, devices that are 20% dirty or devices that are 80% dirty. The report shall show the device, how dirty it is by percentage and its sensitivity setting.
Detectors shall automatically send an alert message to the LCD Users Interface and illuminate the service detector LED when they reach 80% dirty and latch a trouble when they reach 100% dirty to ensure maintenance action is performed.

F. Main Operators Display Operations:
1. Provide a discreet system control switch provided for reset, alarm silence, panel silence, remote disconnect, drill switch, and up/down/right/left switches.
2. Backlit LCD display shall be 80 character display.
Each point shall have a 40 character custom message.
3. Service Detector LED: Provide indication when a detector needs servicing
4. Programmable Switches: Provide minimum of 2 programmable switches with corresponding LED . The switches shall be programmed for disable/enable or activate restore functions as follows;
   a. Disable NAC
   b. Disable Elevator Recall
   c. Disable Fan Shutdown

5. Alarm and Trouble Annunciator: Provide minimum of 32 zones of LED annunciation with red alarm and yellow trouble indicators; 8 zones may be utilized for supervisory zone annunciation. Devices on addressable loop circuits shall be identified by display or their address and by their condition (alarm, pre-alarm, monitor, supervisory, and trouble).

G. Instructions: Computer printout or typewritten instruction card mounted behind a plastic or glass cover in a stainless-steel or aluminum frame. Include interpretation and describe appropriate response for displays and signals. Briefly describe the functional operation of the system under normal, alarm, and trouble conditions

H. Circuits Requirements:
1. Signaling Line Circuits for Intelligent Analog Addressable Loop:
   a. Class B
   ~~b. Class A – for circuits with more than 50 devices~~
2. Notification Appliance Circuits:
   a. Class B
   b. Maximum circuit loading to 2.5 amps for notification appliance circuits
3. Activation of alarm notification appliances, elevator recall and other functions shall occur within 3 seconds after the activation of an initiating device.

I. Smoke-Alarm Verification:

1. Initiate an audible and visible indication of an "alarm-verification" signal at fire-alarm control unit.
2. Activate an NRTL-listed and -approved "alarm-verification" sequence at fire-alarm control unit and detector.
3. Record events by the system printer.
4. Sound general alarm if the alarm is verified.
5. Cancel fire-alarm control unit indication and system reset if the alarm is not verified.